REMARKS

The present Amendment is in response to the Office Action mailed October 9, 2009. Claims 1 and 15 are amended. Claims 1-19 are now pending in view of the above amendments. Applicants note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. Applicants also note that the remarks presented herein have been made merely to clarify the claimed embodiments from elements purported by the Examiner to be taught by the cited reference. Such remarks, or a lack of remarks, are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicants: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner at any time in this case. Applicants reserve the right to challenge the purported teaching and prior art status of the cited references at any appropriate time. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks.

Amended Drawings

The Examiner objects to the Figures on the grounds that "the cross-hatching of the layers 22, 32, 33 made of epoxy resin is still incorrect" (Office Action, page 2). Applicants have amended the drawings as required by the Examiner and explained in the Amendments to the Drawings section of this response. No new matter is entered.

Rejection Under 35 U.S.C. § 112, Second Paragraph

The Office Action rejected claim(s) 18 and 19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner suggests a "positive connection" is typically known in the art as an interlocking of two parts.

Applicant does not necessarily disagree, but submits that a "positive connection" is one that prevents relative movement (e.g., lateral movement) of parts or components. While this can be achieved with interlocking of two parts, preventing the relative movement of parts can also be achieved with an adhesive. Thus, the adhesive bonding recited in claims 19 constitutes a positive connection. Applicants respectfully request withdrawal of the rejection of claims 18-19 under § 112, second paragraph.

Rejection Under 35 U.S.C. §102

The Office Action rejected claims 1-6, 8, 10, 11 and 15-17 under 35 U.S.C. § 102(a) as being anticipated by Japanese Patent Publication No. 2003/278314 (*Oizumi*). Applicants traverse at least on the grounds that *Oizumi* fails to disclose each and every element of the rejected claims as the elements are arranged in the claims.

Claim 1 is directed to an anchorage for at least one pre-tensioned or stressed tensile element. Claim 1 has been amended to recite that the one or more wedges comprise a first wedge-shaped layer in contact with a second wedge shaped layer[1].

This aspect of claim 1, among others, is not disclosed by *Oizumi*. Initially, *Oizumi* introduces a principal member (4) as an "anchor body" that is made of comparably cheaper and softer material than pure hard metal. Materials mentioned to build up the main material of the principal member (4) are resin, ceramic, or concrete. These materials each have a lower E-modulus compared to hard metal.

Oizumi tries to solve a different problem compared to embodiments of the invention: creating an anchor body of an anchorage that is made of a cheaper material. *Oizumi* states, for example, that the conventional sleeve J3 is very expensive because it is pure hard metal. *See* ¶3. *Oizumi* is replacing the conventional sleeve J3 with a thick, less expensive, main material that is surrounded by an inner circumference metal cylinder (5) and a perimeter metal cylinder (6). *See* ¶5; Figure 1.

Other parts of *Oizumi's* anchorage - wedge (2), inner circumference metal cylinder (5) as well as perimeter metal cylinder (6) - are made of hard metal. *Oizumi* therefore discloses that the main material of the principal member (4) is surrounded on

[1] Support for the claim amendments can be found at least in the Figures and accompanying text.

three sides by protective hard metal cylinders. As a result, the metal cylinder (5), which does not have the lower E-modulus, is in contact with the wedge (2).

Notwithstanding the presence of the metal cylinder (5) between the wedge (2) and the wedge-shaped material (4), the Examiner interprets the wedge (2) as being adjacent the wedge-shaped material (4). Although Applicants do not agree or concede with the Examiner's construction of *Oizumi*, claim 1 has been amended to clarify that the first wedge-shaped layer is in contact with the second wedge-shaped layer.

This aspect of claim 1 is not disclosed or suggested by the wedge-shaped layers (2) and (4) of *Oizumi* because the wedge-shaped layers of *Oizumi* are separated by the metal cylinder (5). The wedge (2) of *Oizumi* is therefore not in contact with the wedge-shaped layer (4). In addition to the metal cylinder (5) being positioned between the wedge-shaped layers (2) and (4), the metal cylinder (5) is not wedge-shaped. As a result, the wedge-shaped layers of *Oizumi* do not disclose a first wedge-shaped layer in contact with a second wedge-shaped layer as recited in claim 1.

In addition, although the Office Action asserts that concrete is known to have a lower modulus of elasticity that than of metals such as steel, Applicants respectfully submit that the sleeve (including the material (5) and the main material (4)) of *Oizumi* does not "lower[] a stiffness of the one or more wedges in the first region near the load" as recited in claim 1.

More specifically, the purpose of the concrete is to reduce the cost of the sleeve (*Oizumi* notes that a sleeve of solid metal has a very high unit price (*see* ¶¶3, 6)) and is not disclosed as lowering the modulus of elasticity. In fact, *Oizumi* teaches that the inclusion of the metal cylinder (5) and (6) means that the force from the wedge (2) is provided to the metal cylinder – and not directly to the main material in an attempt to prevent the material from breaking under the load. *See e.g.* ¶7.

Because *Oizumi* provides a new sleeve that functionally replaces a conventional hard metal sleeve J3, Applicants respectfully submit that *Oizumi* does not fairly suggest that "the first wedge-shaped layer lowers a stiffness of the one or more wedges in the first region near the load," as recited in claim 1. The Examiner has not shown that the hard metal cylinder (5), which works with the wedge (2), has a lower modulus of

elasticity. *Oizumi* therefore fails to disclose the element of lowering a stiffness of the one or more wedges in the first region near the load to more evenly distribute contact pressure on a contact area.

In fact, *Oizumi* teaches away from this claim element because lowering the stiffness of the sleeve (1) is seemingly contrary to *Oizumi's* teachings. More specifically, *Oizumi* provides a metal cylinder on three sides in order to replicate a solid metal sleeve at lower cost. *Oizumi* suggests that the load is "told to an anchor plate from the perimeter metal cylinder." *See* ¶7.

It seems that if *Oizumi* were intending to lower the stiffness of the sleeve, *Oizumi* would not have used a hard metal in the metal perimeter to direct the load to the anchor plate. Thus, *Oizumi* does not appear to disclose that the metal cylinder as taught by *Oizumi* demonstrates an attempt to lower the stiffness. As noted by in the office action, the modulus of elasticity of steel or metal is higher than concrete.

Because the metal cylinder (5) interacts with the wedge (2), however, the Office Action has not provided any support for the assertion that the sleeve taught by *Oizumi* lowers the stiffness as recited in claim 1. In fact, the Office Action simply asserts that concrete is known to have a lower modulus of elasticity than metals such as steel. This does not account for the metal cylinders (5) and (6). As a result, there is no disclosure that *Oizumi* lowers the stiffness as recited in claim 1.

Claim 1 further recites that the one or more wedges have a wedge shape to slide along an inclined surface of the anchor body. This aspect of claim 1 is not disclosed in *Oizumi*. More specifically, if the Examiner interprets the material (4) as the main anchor body, then there is no disclosure of a first wedge-shaped layer and a second-wedge shaped layer.

In addition, the main material (4) or more generally the sleeve (1) does not slide, but is held fixed. The sleeve (1) (including the main material (4)) disclosed in *Oizumi* does not slide along an inclined surface. Instead, the Figures of *Oizumi* disclose that the sleeve (1) rests on the stationary material or on the anchor plate. A sleeve resting flat on top of stationary material or on the anchor plate does not disclose or suggest one or more wedges that have a wedge shape to slide along an inclined surface. In

contrast, claim 1 recites that the one or more wedges have a wedge shape to slide along an inclined surface of the anchor body.

In other words, *Oizumi* appears to disclose that the wedge (2) may slide along an inclined surface of the sleeve (1). However, the Examiner suggests that the one or more wedges are disclosed by the wedge (2) and the main material (4). Contrary to the elements of claim 1, *Oizumi* does not disclose that both the wedge (2) and the main material (4) slide along an inclined surface.

For at least these reasons, Applicants respectfully submit that claims 1 and 15 are patentable over the cited art. The dependent claims rejected under § 102 are patentable for at least the same reasons.

Rejection Under 35 U.S.C. § 103

The Office Action rejected claims 7, 12 and 13 under 35 U.S.C. § 103(a) as being unpatentable over *Oizumi*.

Claims 9 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oizumi* as applied to claims 1-6, 8, 10, 11 and 15-17 above, and in further view of U.S. Patent No. 5,802,788 (*Ozawa*).

Claims 18 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oizumi* as applied to claims 1-6, 8, 10, 11 and 15-17 above, and in further view of U.S. Patent No. 3,393,720 (*Fenlin*).

Applicants traverse the Examiner's rejection for obviousness on the grounds that the references – either individually or in combination – fail to teach or suggest each and every element of the rejected claims. Because claims 1 and 15 are patentable as described herein, the remaining claims rejected under § 103 are patentable for at least the same reasons and because *Ozawa* and *Fenlin* have not been shown to remedy the deficiencies of *Oizumi*.

The present specification states that if "the tensile elements 1 are anchored with wedges 3, the shear transmission between the tensile element 1 and the wedge 3 can be affected by friction, adhesive bonding and/or gearing."

Fenlin is cited as disclosing "a wedging structure having adhesive placed on the wedge which provides inherent lubricity between the outer and inner wedge sections and servers to intimately bond the contacting surfaces" in order to remedy this deficiency of *Oizumi*.

Fenlin discloses a wedging structure having adhesive placed between the wedge (3) and the handle section (9) (see *Fenlin*, Col. 6, lines 12-44). Applying the teachings of *Fenlin* in the context of the claims 18-19 results in an adhesive between the wedges and the anchor body. An adhesive between a wedge and an anchor body does not disclose, as recited in claims 18-19, an adhesive bonding between the one or more wedges.

Fenlin, in fact, uses only one wedge (3). Thus a high contact pressure between the wedge and the handle section (9) is created in the region near the load. Embodiments of the invention provide an anchorage wherein the contact pressures and the shearing strains which act upon the tensile element to be anchored are evenly distributed. As *Fenlin* does not provide any advice how to evenly distribute contact pressures, the one skilled in the art would not refer to *Fenlin* to remedy the deficiencies of the other cited references.

For at least the reasons discussed herein, Applicants respectfully submit that the claims rejected under § 103 are patentable over the cited art and request that the rejection be withdrawn.

New Claims

New claim 20 clarifies that the first wedge-shaped layer is between the tensile element and the second wedge-shaped layer. As a result, the greatest thickness of the first wedge-shaped layer near the load is closer to the tensile element than the second-wedge shaped layer. *Oizumi* fails to disclose this structure. In *Oizumi*, the wedge-shaped layer (4) with the greatest thickness near the load is further from the tensile element that the wedge (2). For at least this reason, new claim 20 is patentable over the cited art.

CONCLUSION

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney. In view of the recent USPTO initiative regarding compact prosecution, Applicant respectfully invites the Examiner to contact the undersigned at his earliest convenience in the instance that additional impediment exists to the prompt allowance of this case.

Dated February 9, 2010.

Respectfully submitted,

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